

Karl Julius Ullrich

Renal physiology researcher who proved the countercurrent theory

It was 1943, the second world war was raging, and Karl Julius Ullrich, a 17 year old secondary school student, was drafted by the German military. As a non-commissioned officer he fought against advancing Allied soldiers, firstly in northern Italy and finally in south-central Germany, where, in February 1945, most of his platoon died in a bombing raid. Saved by fate, the young man was subsequently captured by the US army.

“He decided as a prisoner of war that he wanted to study medicine,” said Eberhard Frömter, a colleague and friend who now is professor emeritus of physiology at Goethe University of Frankfurt. “He felt at the time that the world needed doctors more than ever.”

But except for a brief stint as a country doctor in the early 1950s, Ullrich’s life focus was medical research. By the time he retired in 1993 as director of the Max Planck Institute of Biophysics in Frankfurt he was known globally as a top renal physiology researcher.

Transport mechanisms

“Karl had an enviable international reputation for both his scientific accomplishments and his leadership in the field of nephrology,” said Ernest Wright, professor of physiology at David Geffen school of medicine at the University of California in Los Angeles. “He was widely recognised for developing a team of first class investigators in his group at Max Planck to tackle fundamental questions about transport mechanisms in the kidney.”

“He made his mark early, providing the first solid evidence for the ‘countercurrent theory’ to explain how the kidney is able to concentrate the urine to avoid excess water loss,” said Professor Wright. “Following this he pioneered many of the

techniques to study how individual segments of the renal tubule regulate the composition of the urine—initially key ions such as sodium, potassium, chlorine, ammonium, and phosphate.



“He made his mark early, providing the first solid evidence for the ‘countercurrent theory’ to explain how the kidney is able to concentrate the urine to avoid excess water loss”

He had a flair for recognising important problems and was determined to develop and use new and old methodology to get the answers.”

Indeed, after moving to the University of Göttingen in 1955, Ullrich conceived of several techniques necessary for his groundbreaking research, including tools for micropuncture and microanalysis, as well as the “split drop” method to study ion transport across tubule walls. “His tools and methods were later adopted by laboratories around the world,” Professor Frömter said.

Professor Wright noted that before retirement Ullrich “ensured that all of his senior group members found suitable appointments at leading universities or institutes.” Professor Frömter added, “For those of us who worked at the [Max Planck] institute and even for visitors you could not help but be enchanted by Karl Ullrich’s enthusiasm, his benevolence, and his loyalty.”

One of those captivated was US scientist and author Jared Diamond, who upon learning of Ullrich’s death wrote in a condolence email of Ullrich’s “winning smile and twinkle in his eyes,” adding, “I had many enjoyable encounters with him both in Europe and in the United States,” one of which was at a physiological congress in St Petersburg in summer 1997. “I can still picture him and his lovely wife stepping off the bus in the Russian sunshine.”

Karl Julius Ullrich was born on 18 November 1925 in Würzburg. He grew up an only child in Hammelburg, where his father was a teacher and

where his future wife, Marga Halbleib, also grew up. His father died in the second world war. After the war his mother’s meagre pension helped her son to study biology at the University of Erlangen, followed by medical studies at the University of Würzburg, earning his medical degree in 1950.

During his subsequent internship he read *The Kidney in Health and Disease* by Homer W Smith. From that point on the kidney became his focus, and his career trajectory was to be straight up—at high velocity. In 1952 he moved to the University of Marburg’s institute of physiology to work under Kurt Kramer, who had worked in aviation physiology in the United States. By 1954 Ullrich, not yet 30 years old, was taking the first steps toward establishing a global reputation in renal physiology.

In 1959 Dr Ullrich, now with three young children, began a productive eight month sabbatical in North Carolina, working with the nephrologists Bodil Schmidt-Nielsen at Duke University and Carl Gottschalk at the University of North Carolina. He later spent several sabbaticals at Mount Desert Island Biological Laboratory in Maine.

Carboxylic acids

He was named in 1962 as the 36 year old chairman of the physiology department at Free University, Berlin, and in 1967 a director of the Max Planck Institute of Biophysics and head of its physiology department. In Frankfurt he studied the renal handling of sugars, amino acids, and metabolic intermediates such as carboxylic acids, Professor Wright said, adding that as a director he remained active in research.

Ullrich and team became a magnet for visiting nephrologists from Asia, the Americas, and Europe. His daughter Susanne Ullrich, professor at the University of Tübingen Medical School, said, “He was also always in contact with colleagues in Eastern countries—Eastern Germany, Poland, Hungary, Russia, Czechoslovakia, Yugoslavia—and invited them to Frankfurt.”

Ullrich died in August in Königstein-Falkenstein, near Frankfurt, aged 84. He also leaves a second son, Martin. His wife, Marga, died in 2002.

Ned Stafford

Karl Julius Ullrich, renal physiologist (b 1925; q 1950, University of Würzburg), died from heart failure on 2 August 2010.

Cite this as: *BMJ* 2010;341:c5842

Manzur Ahmad

Former general practitioner Romford (b 1940; q Dhaka, Bangladesh, 1964), died from chronic obstructive pulmonary disease on 21 November 2009.

After coming to the United Kingdom in 1965 Manzur Ahmad trained in surgery and general practice, becoming a general practitioner in 1973. He spent some time in Abu Dhabi pioneering a patient identification system. On returning to the UK he was in practice with his wife for 26 years until his retirement in 2007. They achieved the best annual report award for Havering in 1992. Despite ailing health, he persevered with academic interests till the end of his career, gaining the diploma in therapeutics and prescribing from Liverpool University. A lover of the performing arts, he was technical director of the Drama Circle as an undergraduate. He leaves his wife, two daughters, and four grandsons.

Ejaz Ansari

Cite this as: *BMJ* 2010;341:c5851

James Somerville Campbell



Former medical adviser Foreign Office (b 1924; q Glasgow 1951; OBE, FRCS), died from metastatic bladder cancer on 22 August 2010.

In 1942 James Somerville Campbell ("Jimmy") enlisted in the Royal Navy as a radio operator and saw active service in aircraft carriers before studying medicine. He worked as a urologist in Regina, Saskatchewan, after moving to Canada in 1958. Family concerns brought him back to Scotland as a general practitioner and part-time surgeon in Rothesay, Isle of Bute. In 1976 Jimmy joined the Foreign Office as medical adviser to the British Embassy in Warsaw and then the British High Commission in New Delhi. After returning to the UK in 1983, he

became a member of the medical unit at Terminal 3, Heathrow. He leaves a wife, Jenny, and a daughter.

Colin Boyd

Jenny Campbell

Cite this as: *BMJ* 2010;341:c5850

Peter Jacques Garwood



Former general practitioner Harpenden, Hertfordshire (b 1930; q Edinburgh 1956), d 2 October 2010. At the age of 18, Peter Jacques Garwood did two years of national service in the army before studying medicine. After qualification he remained in Edinburgh's city hospitals in Edinburgh before moving to Harpenden in the early 1960s to take up a career in general practice. He was a dedicated, enthusiastic, and much loved family doctor until ill health forced his early retirement in 1987, but he continued to work as a medical examiner for the Benefits Agency. He was much saddened when red tape, the bane of his life, meant that he had to give up his medical registration with the introduction of the licence to practise. He leaves his second wife, Ann; four children; and two stepchildren.

John H Clarke

Cite this as: *BMJ* 2010;341:c5852

Paul McIntosh Orgill Massey

Former general practitioner Birmingham (b 1929; q Cambridge 1953; MD, FCOM), d 21 October 2009. Paul McIntosh Orgill Massey rowed twice for Cambridge in the university boat race, and won a silver medal for rowing at the 1948 Olympics; he was later medical officer to the British team at the Tokyo and Mexico Olympics. After qualifying, Paul spent two seasons in Antarctica, a mountain range (Massey Heights) being named after him. Having gained his MD in 1956, he joined

his father's Birmingham practice and developed its strength in occupational medicine. He was a justice of the peace and member of the prison visiting committee, as well as freeman of the City of London, and master of the Worshipful Company of Grocers.

D B Eccleston

Cite this as: *BMJ* 2010;341:c3833

Lorna Martin McPhail

Former police surgeon Tayside Police (b 1937; q St Bartholomew's Hospital, London, 1963; OBE, DFM), d 17 December 2009.

Lorna Martin McPhail married a fellow doctor, Mitchell Notaras, and had three daughters. They divorced in the late 1960s, and she returned to medicine in the mid-1970s, initially working part-time in St Luke's Hospital, Guildford, for five years. She then returned to her Scottish roots, working part time as a general practitioner and for the local police in Perthshire. In 1986 she became a full time police surgeon with Tayside Police until her retirement in 2003. In 1992 she achieved a diploma in forensic medicine with distinction, and in 2000 her contribution, including designing a special child friendly examination room in a police station, was recognised by an OBE. She leaves her three daughters and four grandchildren.

Lorna Notaras

Cite this as: *BMJ* 2010;341:c5580

Leslie Thomas Scott



Former consultant anaesthetist Lancaster and Kendal (b 1916; q Oxford/ University College Hospital, London, 1941; BA, FFARCS), d 15 May 2009. After qualifying, Leslie Thomas Scott joined a practice in Tonbridge, with some anaesthetic sessions. Disillusioned with general practice by 1950, he was appointed professor

of anaesthesia in Damascus. Forced to leave Syria in 1953 for political reasons, he worked for the Colonial Medical Service in Malaya. In 1960 he was appointed consultant at Lancaster, retiring in 1981. Leslie established what became a renowned department of anaesthesia, increased the number of staff, and established a teaching programme. He also pioneered preoperative assessment clinics. He was very well-read and an excellent conversationalist. Predeceased by his eldest son in 1975 and by his wife in 1993, he leaves two sons and six grandchildren.

Miles Rucklidge

Cite this as: *BMJ* 2010;341:c5845

Edward Laverick Stout

Former general practitioner York (b 1926; q Cambridge/St George's Hospital, London, 1953), died from metastatic cancer of the prostate and hemiplegic stroke on 18 April 2010. Born in Whitehaven, Cumbria, Edward Laverick Stout was educated at Worksop College, Nottinghamshire, and then Pembroke College, Cambridge, and St George's Hospital, London. After house appointments at St George's he did national service in the Royal Air Force in the Middle East. He then entered general practice in York together with a clinical assistantship in hospital anaesthetics, practising for over 30 years. He was keen on most sports, especially when young, enjoying rugby, cricket, and athletics and then golf, fishing, and fell walking. He was interested in music and was a choral member of York Musical Society for many years.

Edward Laverick Stout

Cite this as: *BMJ* 2010;341:c5844

ADVICE
We will be pleased to receive obituary notices of around 250 words. In most cases we will be able to publish only about 100 words in the printed journal, but we can run a fuller version on our website. We will take responsibility for shortening. We do not send proofs. Please give a contact telephone number and, where possible, supply the obituary by email to obituaries@bmj.com